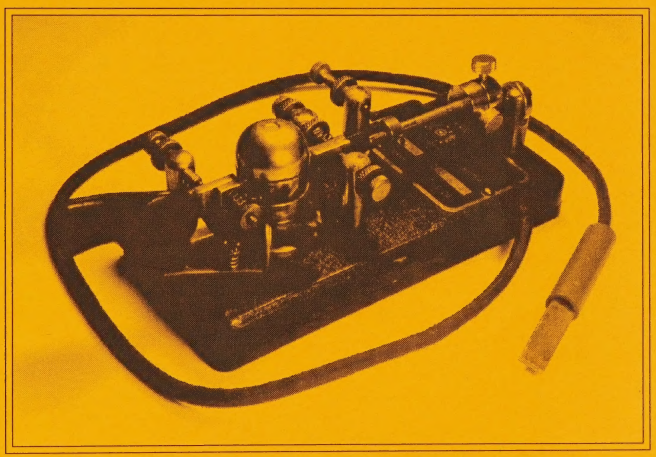
Number 41 – August 1995

Flying the flag for Morse

Morsum Magnificat

The Morse Magazine



Rotoplex Key, designed by Horace Martin

Flying the flag for Morse

Morsum Magnificat

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MORSUM MAGNIFICAT was first published as a quarterly magazine in Holland, in 1983, by the late Rinus Hellemons PA0BFN. Now published six times a year in Britain, it aims to provide international coverage of all aspects of Morse telegraphy, past present and future. MORSUM MAGNIFICAT is for all Morse enthusiasts, amateur or professional, active or retired. It brings together material which would otherwise be lost to posterity, providing an invaluable source of interest, reference and record relating to the traditions and practice of Morse.

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ON OUR FRONT COVER

Rotoplex key from WWII. Designed by Horace Martin after leaving Vibroplex. Made by Clark Electric Co., Townsville, Kentucky. Ball-bearing races in pivot support. "Smoothest handling bug".
Photo/Collection: Dave Pennes WA3LKN

Comment

AS YOU WILL KNOW from this page in the last issue of *MM*, I do not have a great regard for the methods of modern-day single-issue pressure groups, as epitomised by the New Zealand anti-Morse organisation ORACLE. My opinion of that particular group was not improved when I read ORACLE's response to Gary Bold's views as published in MM40 *(see page 8 of this issue)*.

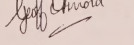
In this, they try to hide behind the Privacy Act in New Zealand as an excuse for not revealing just how insignificant in numerical terms their support must obviously be. I find the sheer arrogance of their statement "... ORACLE wishes to have the image of placing quality policy discussion before amateurs and politicians rather than debating support bases" totally breathtaking! Those behind ORACLE should perhaps be reminded that they live in a democracy, where (in theory at least) it is still the views of the majority which count.

A couple of days ago, I came across a review in the UK newspaper *Daily Mail,* talking in that case about a documentary TV programme of the previous evening, which expresses far better than I can the true nature of groups such as ORACLE:

> "These groups ... are characterised by their success in bullying elected politicians, their carelessness with statistics, their disregard for any views contrary to their own, and their childlike determination to get their own way."

In any case, it could be that this movement to brand competence in Morse an irrelevancy is, to say the least, premature. We understand that Morse is still being taught in the British Army, while in the RAF, an in-depth review of the benefits of retaining a Morse capability is under way. And, of course, for visual (flashing light) communications, Morse is still in use between warships of the NATO navies.

In a late news feature on page 22 of this issue, there is an announcement that the US MARS organisation is to discontinue Morse from October next year. I don't doubt that the military can afford some very sophisticated Morse-decoding programs, but can they **really** read the sort of mangled Morse that a skilled human can cope with, as Assistant Secretary of Defense Emmett Paige claims?



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MOVING HOME? *– Please let us know promptly if you change your address, including details of the old address so that we can be sure we are updating the right subscription record. Also, tell us if you have been one of those affected by the programme of changing postal and zip codes which seems to be going on in various parts of the world. Remember, too, to let your bank and credit card companies know of the change, as they may refuse to authorise payments of subscription renewals, etc., if the address and/or post code information on their files is out of date.*

News

ARRL Statistics

The W5YI Report of August 1 carries some interesting statistics which help to put the present usage of CW on the amateur bands into perspective relative to other modes. These figures were recently obtained from a sample of American Radio Relay League members by a survey company, Readex, on behalf of ARRL. The company has calculated a ±3.4% margin of error in this survey at 95% confidence level.

Included in a long list of information prepared for the benefit of QST advertisers are the following responses:

Q. Do you own a personal computer?
A. Yes: 81% No: 19%

Amateur radio software currently owned is listed as: Digipeater/packet 46%; License study 29%; Callsign database 30%; Logging 26%.

From this information, it appears that while a large proportion of radio amateurs have computers (including many CW operators) they do not necessarily use them for direct radio communication, but rather as aids to efficient operating.

The actual modes used on the air are listed as: FM 79%; SSB 79%; CW 54%; Packet 40%.

If over 50% of radio amateurs still use Morse on the air, it follows that CW is not yet ready to be declared a minority mode!

Regular operating or listening on the amateur bands is listed in descending order of usage: 2m 84%, 40m 67%, 20m 65%, 10m 59%, 80m 55%, 15m 53%, 450MHz 36%, 17m 29%.

NZ No-code Controversy

There is a separate report on the current position of the NZ no-code controversy on page 8 of this issue.

Sir Oliver Lodge Honoured

A plaque was unveiled at the University of Oxford Museum, on 23 June 1995, to commemorate the first demonstration of a spark gap transmission by Sir Oliver Lodge – given at a meeting of the British Association in Oxford on 14 August 1894. Lodge used standard telegraph equipment, and it was the first recorded instance of the transmission and reception of a Morse signal by radio waves. In a later link with amateur radio, in 1925, Sir Oliver became the fifth President of the Radio Society of Great Britain.

An account of the 1894 demonstration was given in an article 'The First Radio-telegraph Transmission', by Rowland Pocock in MM14, p.1.

Morse Tests on Demand

Amateur Morse tests are available on demand when the Radio Society of Great Britain's HQ is open on a Saturday. At

present this is on the third Saturday of each month, from 10 a.m. to 4 p.m.

No booking is necessary, but candidates must take with them the test fee of £18.00 for the 12 wpm test, or £13.00 for the 5 wpm test, also two passport-type photos.

The Milton Keynes & District Amateur Radio Society, which has two RSGB Morse examiners amongst its members, also runs tests on demand sessions once every two months.

MM would be interested to know if other radio clubs offer the same facility? Please send details to the *MM* editorial office.

Grants for Morse 2000 Outreach

The Morse 2000 Outreach reported in MM40, p.5, has received a $7000 grant from the American Radio Relay League Foundation, and a $1000 grant from the Dean of Human Sciences and Services at the University of Wisconsin-Eau Claire.

These grants, plus additional funds hoped to be raised, will help cover costs of communication, mailings, and development of the outreach and the 1997 world conference, which will be concerned with Morse code applications in rehabilitation.

Requests to be placed on the Morse 2000 mailing list should be made to Dr Thomas W. King WF9I, Department of Communication Disorders, University of Wisconsin-Eau Claire, Eau Claire, WI 54702-4004, USA.

9J50UN on United Nations Day

MM reader Brian Otter, 9J2BO, has been granted the special event call 9J50UN for use on United Nations Day, 24 October 1995, to celebrate 50 years of the UN. He hopes to use the call on both CW and SSB.

Last year he made 2000 contacts on CW with the special call 9I30ZIN, celebrating 30 years of Zambian independence. If any *MM* readers contact 9J50UN on the key, please mention the magazine if the opportunity arises.

Morsecodians at Alice 1995

As mentioned on the back cover of MM40, the Morsecodians Fraternity operated their annual telegraph 'landline' from the National Science & Technology Centre, Canberra, to the historic Overland Telegraph Station at Alice Springs for nine days in April.

The line was also linked to the Killer Whale Museum at Eden, New South Wales, where whaling was the main industry at the turn of the century. Eden is near the NSW/Victoria border, on the shores of Twofold Bay, one of the deepest harbours in the world. The Eden circuit commemorated the 125th anniversary of the Eden to Gabo Island Lighthouse telegraph line, also the arrival in Twofold Bay of the replica sailing ship the *Endeavour*. The *Endeavour* was the ship in which Captain Cook reached Australia in 1770.

Each year the traffic on the Canberra – Alice Springs circuit increases so Morsecodian Fred Ryan (VK1RY) came up with a couple of relay sets which enabled the simplex circuit to be converted to duplex working. This worked extremely well and made a huge difference to the amount of traffic shifted.

The final traffic figures (messages

sent on behalf of the general public) were (from) Canberra, 768; Alice Springs, 1031; Eden, 370.

(Report from John Houlder. We are delighted to learn that, 'after much pushing from Fred Ryan', John has taken, and passed the Australian amateur Novice examination and hopes to get on the air with 'a fair bit of mobile CW'. John is, of course, an expert telegraphist and we all look forward to hearing his signal on the DX bands in due course. – Ed.)

Morse Ephemera Wanted

We would welcome examples of Morse ephemera for an occasional series in *MM*. We are thinking of printed items that are usually thrown away after use, but which have some reference to Morse on them, perhaps in the form of an entertaining, eye-catching, or instructive illustration.

An example sent recently by Alan Williams G3KSU was a sugar packet from Belgium with the Morse symbols for 'SOS' printed on the back. We had a Morse phone card from Henri Jacob

FOR YOUR DIARY

Notice of some of the amateur radio-related events being held in the UK over the next few months. Although keys (other than the various WT 8AMP and NATO models) and other telegraph bits and pieces are becoming scarcer all the time, there's always a chance you may make a worthwhile find, but be there early!

* On **Sunday, September 3** the **Telford Amateur Radio Rally** will be held at the Exhibition Centre, Telford, Shropshire, doors open at 10.30am.

Also on **September 3**, the **Bristol Radio Rally** will take place in the Brunel Centre, Temple Meads Station, Bristol, from 10.30am to 4pm.

* The **Leicester Amateur Radio Exhibition** will take place at the Granby Halls, Leicester, on **Friday and Saturday, October 20/21**.

* On **Saturday and Sunday, November 4/5**, the **North Wales Radio & Computer Rally** will be held at the Aberconwy Conference Centre, Llandudno

* On **Sunday, December 3**, the **National Vintage Communications Fair Christmas Special** will be staged at the National Exhibition Centre, Birmingham. In response to demand from traders and visitors alike, organiser Jonathan Hill has agreed to stage this 'extra' show for the first time in 1995. As well as the usual range of vintage radio, TV, telephones, gramophones and classic audio and hi-fi, this Christmas show will be extended to include scientific instruments, sewing machines, typewriters and other electrical and mechanical antiques and collectables. At past shows, there have been a number of telegraphy-related items on sale.

The *MM/RB* team will be in attendance at each of the above shows marked with an *.

F6GTC in MM32, p47, and there was a 1946 advertisement for Sharps Toffee entirely in Morse in MM18, p.37.

Other examples could include leaflets, postcards, bus tickets, magazine covers, cigarette cards, greetings cards, posters, and so on – anything, in fact, designed for a non-Morse purpose but which has some form of Morse illustration on it.

The trivia of today or yesterday becomes the social history of tomorrow, and is well worth recording to show the extent to which an awareness of Morse code has impinged on everyday life. Readers are asked to send any ephemeral items they discover to Tony Smith (address inside front cover). If you don't want to part with something, please try to send a photocopy which we can reproduce.

AGCW-DL Straight Key Party

All licensed amateurs are invited to take part in the AGCW Straight Key Party on Saturday 2 September 1995, on 7.010–7.040MHz, from 1300–1600 UTC.

Classes: A – Maximum 5 watts output (or 10W input)
B – Maximum 50 watts output (or 100W input)
C – Maximum 150 watts output (or 300W input)
D – Shortwave Listeners

Call: CQ HTP. EXCHANGE: RST + Serial Number/Class/Name/Age (XYL = XX).

Points for QSOs: A with A = 9, A with B = 7, A with C = 5, B with B = 4, B with C = 3, C with C = 2.

Logs: To include time (UTC), band, call, RST + serial number given and received, class, description of rig used, calculation of points, and declaration that rules have been observed (including use of hand key only). SWL logs to include both callsigns heard and at least one complete report for each QSO logged.

Logs to be sent to F.W. Fabri DF1OY, Wolkerweg 11, D-81375 Munchen, Germany, by 30 September 1995. Send a self-addressed envelope + IRC for results, if required.

(Information from AGCW-DL)

Europe for QRP Weekend 1995

The rules for this internationally recognised QRP event, organised by the OK and G-QRP Clubs, are as follows.

Dates and times: From 1600 GMT, September 29 to 2359 GMT, October 1.

Mode and frequencies: CW only, on 3.560, 7.030, 14.060, 21.060 and 28.060MHz, all ±10kHz.

Power: Not to exceed 5 watts RF output. Stations unable to measure output, take half of their DC input power (e.g., 10W input = 5W output).

Stations eligible: Any licensed radio amateur.

Call: CQ EU QRP. Contest exchanges: RST, power output, and name of operator.

Scoring: Only QRP/QRP QSOs count. Contacts with own country, no score; EU stations score 1 point for each EU contact and 3 points for each contact outside Europe. Stations outside Europe score 5 points for each contact with Europe. The final score is the sum of the points obtained on each band used.

Logs: Send separate log sheets for each band, showing for each contact, date, time, call, exchanges (RST, power,

name) sent and received. Send logs to P. Doudera OK1CZ, U 1. baterie 1, 16200 Praha 6, Czech Republic, by 12 November 1995.

Awards: The leading three stations in each continent will receive a certificate. In the case of any dispute, the decision of the organisers shall be final.

(Information from Gerald Stancey G3MCK, Communications Manager, G-QRP Club.)

"Do You Know Wyn Davies?"

MM reader and correspondent John Francis, G3LWI, from the Isle of Wight, recently visited the Smithsonian Institution in Washington DC. At a hands-on display of Morse keys he was happily sending Morse to himself when he was approached by another visitor who commented on his sending.

A discussion on Morse matters followed and the stranger suddenly said "Do you know Wyn Davies?" John did indeed know fellow-key collector and *MM* contributor Wyn, who lives in far-off Wales. John's new acquaintance turned out to be a friend of Wyn's, Dave Pennes, WA3LKN, another *MM* contributor (and key collector), from Indianapolis, IN.

This chance *MM* meeting enhanced their Smithsonian visit and forged yet another link in the worldwide chain of collectors and Morse devotees originally brought together through their enthusiastic support of the magazine. In turn, Wyn Davies is thrilled at having been 'named in the Smithsonian'!

Readers' ADs

FOR SALE

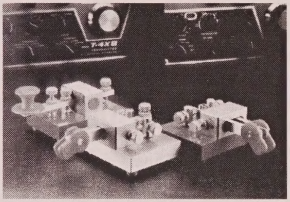
16-PAGE ILLUSTRATED LIST of telegraph items/paper/parts, and related items, $3.00 (refundable). Dr Joseph Jacobs, 60 Seaview Terrace, Northport, NY 11768, USA, 'phone 516-261-1576, fax 516-754-4616.

JOSEPH JUNKER PRECISION MORSE KEYS, type M.T. with pot metal covers for sale in quantity. All need restoration because of corrosion caused by long-term storage. POSSIBLY USED: $25 including surface shipping. FRESHLY UNPACKED from factory-produced crate in original wrapping paper: $75 including airmail shipping. May consider good quality straight key or iambic paddle trades. Write: Bruce Prior AA3DK, 400 Detwiller Lane, Bellevue, WA 98004, USA.

WANTED

SPECIAL TELEGRAPH EQUIPMENT, Single needle telegraph; Baudot; Hughes. Also Marconi multiple tuner. Can be collected in the UK. Exchange items (telegraphy, telephony, radio) also available. Fons Vanden Berghen, Lenniksesteenweg 462/22, B-1500 Halle, Belgium. Tel: Office +32.16.38.27.21. Late evening: +32.2.356.05.56.

The CW Centre! ©



Jones keys

Peter Jones

Pump Key	Red base	£62.61
	Brass base	£70.76
Single paddle	red	£86.82
	brass	£83.61
Twin paddle	red	£77.19
	brass	£85.22

R A Kent

Pump key	kit	£39.50
	assembled	£51.50
Single paddle	kit	£44.50
	assembled	£54.50
Twin paddle	kit	£51.50
	assembled	£65.50

Bencher twin lever paddles

BY1	Black base	£64.95
BY2	Chromed base	£79.95

Keyers

Curtis 8044ABM chip		£19.95
"Oak Hills" Curtis keyer	kit	£33.95
	assembled pcb	£44.95
R A Kent Electronic keyer	kit	£45.00
	ready to use	£59.50

Morse Tutors

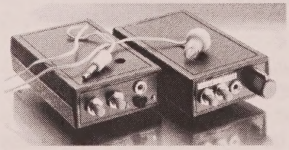
G3TUX "Omega" multimode		£44.95
R A Kent		£49.95

Practice Oscillators

R A Kent (built in speaker)		£17.50
C M Howes ST2	pcb kit	£9.80
	HA12R case	£10.10
ST2+HA12R	ready to use	£29.95

RX Audio filters

C M Howes ASL5	pcb kit	£15.90
	HA50R case	£13.90
HA50R+ASL5	ready to use	£49.95
Oak Hills SCAF	kit	£56.50
	ready to use	£89.95
Timewave DSP9 plus		£239.00



Omega Tutor

Prices include 17.5% Value added tax but **not** shipping costs. Export orders welcome.
Ask for detailed information about any of these products. Join our mailing list.

G3TUX

The QRP Component Company
PO Box 88, Haslemere, Surrey GU27 2RF
Tel: 01428 641771 Fax: 01428 661794

NZ No-code Controversy Continues

by Tony Smith

THE CONTROVERSY about the Morse test for radio amateurs continues despite the decision of the International Amateur Radio Union (reported in MM38, p.14) to neither propose nor support a change in the requirement at this time.

In MM40 (p.8), Gary Bold ZL1AN reported on the decision of the New Zealand government, against the wishes of its national radio society, NZART, to propose the abolition of the international regulation requiring a Morse test (RR2735) at the World Radio Conference (WRC-95) in October/November this year.

This proposal has sparked further debate in IARU member societies around the world, and some of the reactions noted by *MM* are as follows.

Radio Amateurs of Canada

Canada's national radio society, RAC, has informed its licensing authority, Industry Canada, that it opposes any change to RR2735, and it has endorsed the position of the International Amateur Radio Union taken at its meeting in Singapore in September 1994.

The Canadian Amateur, July/August 1995, comments, 'It should be noted that RAC is bound by its IARU commitments for WRC-95 but this important issue is being further investigated with an open mind by the RAC Board and Executive.'

Radio Society of Great Britain

The Council of the Radio Society of Great Britain has also endorsed the position taken by the IARU, and has recommended that the IARU paper, *The Morse code and Amateur Radio – a Summary from the work of the IARU CW Ad Hoc Committee*, be given the widest possible distribution.

A letter signed by the President of the RSGB has been sent to the Radiocommunications Agency (the UK licensing authority) informing the RA of the Society's position in this matter.

(Information from Peter Kirby G0TWW, General Manager, RSGB)

VERON

From Holland, C.H. Murre PA2CHM, VERON's IARU Liaison Officer has confirmed that VERON

adheres to the recommendation adopted at the IARU Region 1 conference in 1993 – which maintained the *status quo* concerning the necessity of a Morse test as part of the licence requirements for amateur operation under 30MHz.

He points out that while national societies like VERON can put their views to their administrations to try to influence their voting at World Radio conferences, it is the administrations themselves that decide how to vote. It is not known at present how the Dutch administration (HDTP/OZ) will vote on this particular matter.

(Thanks to Monika Pouw-Arnold, PA3FBF, for obtaining this information for MM*)*

No Support for Test in Zambia

At the Annual General Meeting of the Radio Society of Zambia, on May 27, Brian Otter 9J2BO, IARU Liaison Officer, put forward a motion proposing that in accordance with the policy of the IARU (of which RSZ is a member), the Society should ask the Zambian licensing authority to support the retention of the Morse test.

This motion was overwhelmingly defeated by the members present at the meeting. However, no counter motion was proposed asking the licensing authority to support the deletion of RR-2735. It is believed the licensing authority supports the retention of RR2735.

(Thanks to Brian Otter, 9J2BO, for this report)

ORACLE Response in W5YI Report

The July 15 issue of the *W5YI Report*, an internationally read twice-monthly Ham Radio Newsletter edited by Fred Maia W5YI, contains a two-page report quoting extensively from Gary Bold's article in *MM*. This report includes a response from ORACLE to Gary's comments that ORACLE's representations to the New Zealand government could have no validity since "It is quite possible that membership is less than 100" (MM40, p.13).

ORACLE has responded that Gary's "speculative estimate... is incorrect" It says "The Privacy Act in New Zealand protects the personal information of members, and in any case ORACLE wishes to have the image of placing quality policy discussion before amateurs and politicians rather than debating support bases."

It goes on to claim "The announcement of new policy was made following a series of joint meetings between the Ministry, ORACLE and NZART..." and says "ORACLE won the debate in New Zealand fair and square."

G-QRP Club Writes to Minister

Following the suggestion made in MM40, p.15, that readers might write to the Hon Maurice Williamson, the New Zealand Minister of Commerce, the G-QRP Communications and Contests Manager, Gerald Stancey G3MCK, has written to the Minister on behalf of the G-QRP club, pointing out that the overwhelming view of licensed amateurs throughout the world, i.e., the people who have actual experience of operating on the HF amateur bands, supports the retention of the Morse test. He asks the Minister to agree that the Morse

requirement for the HF amateur licence should continue.

He also sent the Minister a copy of the G-QRP Club's 1993 submission to the Radio Society of Great Britain, when the no-code issue was the subject of a nationwide consultation exercise and when a 67.5 per cent majority voted 'no' to a code-free licence.

The conclusion of this paper was that the effects of ANY lowering in amateur licence qualifications at the present time would be incalculable, and could present real dangers to the future of the hobby.

In support of its position to argue such a case, the paper records that the G-QRP Club has some 5000 members. About 3500 of these hold UK amateur licences, and overseas membership covers some 50 countries.

MM will welcome news of any other clubs that have written to the Minister.

As Seen by Others

Another American publication, *World Radio* July 1995, reports on the decision of the New Zealand government to seek to overturn RR2735. When ORACLE began lobbying the New Zealand government to take a leadership role in abolishing Morse code testing, says the report:

"Few people gave (it) any chance of success. Ham radio political leaders in New Zealand and around the world discounted ORACLE as being a minor league player trying to gain a political foothold in the ham radio major leagues." The report in *World Radio* describes the decision of the New Zealand government as a major victory for ORACLE.

Do Something Positive!

It is too easy to think "I'm not interested in all these politics. I just want to enjoy my amateur radio." So do we all, but there are times when we just have to take an interest in what is going on outside the shack, and do something positive so that the voice of the normally silent majority can be heard.

If you have any views on the New Zealand proposal, it's not too late to write to the Minister to support the views already expressed to him by others around the world. (Write to: The Hon. Maurice Williamson, Parliament Buildings, Wellington, New Zealand.)

Australia's Spectrum Management Agency recently backed off from a proposed 92 percent increase in amateur licence fees after receiving a barrage of protest from amateurs across Australia, demonstrating that politicians do take notice when sufficient objections are received to their ill-advised actions.

Keep* MM *Informed!

Readers are requested to let *MM* know immediately of any developments in this matter that come to their notice in their own countries. Don't worry that others may have already told us. We would rather have several reports of the same thing than no reports at all!

Let us know, if you can find out, what the view of your national society is, and if you or your Morse organisation have written to the Minister in New Zealand.

Remember, *MM* is the only publication for Morse enthusiasts which specialises in Morse news, good or bad, keeping its readers informed about

Minister Still Firm

As we prepare to go to press with this issue of *MM*, the following letter has been received by Tony Smith from New Zealand's Minister of Communications:

27th July 1995

Dear Mr Smith,

Thank you for your letter of 25 June about New Zealand preparations and proposals for the work of the World Radiocommunication Conference WRC-95 to be held in Geneva in October and November of this year.

The appropriateness of the mandatory requirement that Morse proficiency, for access to frequency bands in the amateur service below 30MHz, being part of an international treaty, has been under consideration for some time in New Zealand.

However, this is merely one element in the overall process of Simplification of those Regulations, in which New Zealand has played quite a major part. It is the view of the officials within my Ministry that much more flexibility for the regulatory regime surrounding amateur radio would be achieved if administrations could take such measures as they judge necessary to verify the operational and technical qualifications of any person wishing to operate the apparatus of an amateur station. This is provided for already in No. 2736 of the Radio Regulations. I share the view of my officials.

I am advised that the proposals will be sent to the International Telecommunication Union shortly, where they will be published and distributed to all other administrations.

If there is little, or no support, for the New Zealand proposals, then so be it. The Conference itself will decide whether there is merit in the New Zealand position.

I note your comments about the numbers of active amateur radio operators who still practice Morse telegraphy and the part that Morse plays in the amateur service. Accepting that, I would not expect this situation to change because of the proposal to suppress No. 2735 of the Radio Regulations.

Should you wish to raise this, or any other matter again, please contact my officials in Communications Division of the Ministry of Commerce in Wellington, where radiocommunication matters, and WRC-95 work, is being co-ordinated.

Yours sincerely
Maurice Williamson
Minister of Communications

matters that affect them world-wide. To do this, we rely on you to tell us what is happening in your country. Please write to Geoff or me with your Morse news – about the no-code controversy or any other Morse matter. Our addresses are inside the front cover of every issue of *MM*.

Learning the Other Code

by Wm.G. Pierpont N0HFF

IN THIS ARTICLE, we shall consider how to go about learning the other code. Since most of us know the International (formerly called 'Continental') code, how do we go about learning the old ('American') Morse landline code?

Do not use the following comparative lists in any way to learn the American code. Their purpose is solely to show the differences between the two codes, and particularly the effects on the structure of certain characters due to the Morse internal spaces and the special lengthened dahs. They affect rhythms.

First, the old Morse differs from International in four aspects:

1. The following characters are THE SAME in both codes: A B D E G H I K M N S T U V W 4 (⅔ of alphabet letters)

2. A number of International characters represent DIFFERENT letters or numbers or signs in old Morse:

MORSE: F J Q P X 1 5 7 8 9 . ?
INTN'L: R C F 5 L P O Z 6 X ? /

3. Certain old Morse letters contain INTERNAL SPACES which make them subject to possible misinterpretation as two letters, i.e.:

C O R Y Z

might appear to be:

IE EE EI II SE

4. Certain letters in old Morse are DIFFERENT from any International character for English:

L = a longer dah

0 (zero) = a still longer dah (see below).

The following numbers are different in old Morse from any International English character sound: 2 3 6.

This does not include other punctuation, which differs and in old Morse landline circuits was used extensively. It must be heard to learn it.

Timing

There seem to have been no 'standard' timing relationships in American Morse as compared with International Morse. That is, the duration of a normal dah is stated variously as being two times or three times the duration of a dit. (My own impression is that it tended to be somewhat shorter than the corresponding dah in International code. This might have been done to save time and yet to

keep the careful distinctions between a dit and the definitely longer dah for 'L', which nominally was considered to be twice as long as the normal dah.)

The important thing was to clearly distinguish between 'E' and 'L' and 'T'. Zero (0) would be intentionally longer than 'L' when there would be a risk of its being misread, but otherwise would be about the same. (Some have described 'L' as being as short as 4 or as long as 7 units, and zero as short as 5 or as long as 10 units. There seems to have been better agreement on the spaces.)

The important thing was 'This is communication. Things should have to be sent only once. Having to repeat wastes time and money. Are the words and numbers being clearly understood by the receiving operator?'

In the same way, the space in the internally spaced characters (3 above) is usually stated to be the duration of two dits, but tended to be shortened just enough to be clear, so the receiving operator would not be confused.

The spacing between letters in a word nominally appears to have been the duration of 3–4 dits, and between words about the length of 4–6 dits. Before and/or after the internally spaced characters a slightly longer than normal letter space was often felt necessary, depending on the code environment.

Again, these values would tend to vary according to the skill of both operators. The object was, as always, perfect copy with minimum time to transmit, leaving considerable flexibility to the individual operators. (A person who sent the word 'telegraph' so that it was copied as 'jgraph' shows the importance of having adequate spacing, which is more acute in American Morse than in International code.)

No Need for Confusion

Three general features distinguish old Morse from International Morse code:

1. Most obvious is the difference in basic rhythm: International has a distinctly 'regular' sort of rhythm, while old Morse has a catchy sort of apocopated rhythm – it marches in a striking sort of 'go and halt' way, that when sent by a skilled operator is unmistakable.

2. Along with this is a rather obvious 'ditty' characteristic of old Morse by contrast with International.

3. Not quite so obvious is that old Morse is about 10% faster than International when the same lengths of dashes and spaces are used in both codes (that is, it will take about 10% less time to send the same text).

Interestingly, old Morse also requires about 15% less effort to send. It tends to be more of an art form, with considerably more variation in 'fists,' or sending styles.

At first sight, with some characters the same and others different, confusion between the codes might seem considerable in learning the other. Take heart! In 1942, Mr. R.J. Miller, a skilled teacher with the old Teleplex Co., wrote: "One who is expert in only one code, e.g. American Morse, can master Continental Morse in ten days to two weeks and be as expert at the new code as he was in the old code. This is because his mind is trained to recognize the quick sounds. This theory has been proved many a time."

Notice his words carefully: 'expert' and 'his mind is trained to recognize the quick sounds.' These are not trivial words. It is the operator who already can handle the one code like an expert, because his mind has been well trained to recognise the letter sounds instantly when they are sent at a good speed, who is going to learn so fast and well.

Just how Mr. Miller defined 'expert' is not pinned down, but we can assume that such an 'expert' was better than the minimum requirement for a commercial radio operator of those early days.

It is probably safe to say that a person who can easily handle the code somewhere in the 25–35 wpm range will find Mr. Miller's words to be true, if he puts himself to it.

From this we may assume that those of us who are less skilled and want to learn old Morse may expect to take somewhat longer to get there. (Perhaps in learning the second code in the proper way we may actually improve our skill in the code we already know, since immediate character recognition is the key point).

Learning It

How should we go about learning old Morse? First of all, we have to hear it properly sent, because its rhythms are different. We should have little trouble with recognising it on the air: its peculiar rhythms and 'dittiness' will quickly identify it.

But also we will find we can easily read many common words because they sound the same in both codes (e.g. 'and, the, it, but, these, thing,' and many others) – that's an encouragement: we don't have to relearn their sounds.

Listen to get the swing of it, then practise with your key, imitating the experts. This will help reinforce the sounds. Consider the following suggestions:

1. Just ignore the idea of possible confusion: over the years many operators with various degrees of skill, from quite modest to expert, have managed to use both codes with no difficulty. In early 'wireless' days a commercial operator was generally required to do this, and many of them were not very fast operators.

2. You already know two-thirds of the alphabet and one of ten digits: so you don't have to give these any special thought at all.

3. Think separate for all the characters that are different – these are the ones that distinguish the two codes. Keep each code separate and distinct from the other: don't mix or compare them. (For example, don't under any conditions let yourself think: that's 'C' so it is 'J'.) There must be nothing standing in between the signal you hear and its immediate recognition as being the letter. (A person who knows German as well as English knows that the letters ch are pronounced differently in German than in English – there is no confusion at all. We need to think the same way here.)

4. Remember that learning old Morse is going to be much easier and faster than learning International code because we already know how to go about it and that many, many others have succeeded well. This ought to give us great encouragement and confidence.

continued on page 16

Learning American Morse – 'THE MILL'

FOR THOSE INTERESTED in learning American Morse, Jim Farrior W4FOK has written an excellent computer program called 'THE MILL'. This teaches both American and International Morse using Farnsworth speeds (i.e., with extra spacing between letters and words during the learning process, progressively lessening as ability improves).

With American Morse, output from the computer can be used to drive a sounder (a suitable circuit is provided with the program), or the computer's speaker can be selected to provide a simulated sounder output.

The Mill is intended both for learners and for experienced operators wishing to improve their skill in either code. It has two modes, Keyboard mode and Code Practice mode. Keyboard mode provides a Keyboard screen with an overprinting buffer.

Code Practice mode provides access to the program's teaching features, including Random letters; Random groups; Sending (and repetition) of any ASCII text file in the MILL directory; Farnsworth sending; Incremental speed increase; and Incremental speed increase with Farnsworth sending, the last two being particularly powerful learning methods.

For those wishing to try out their newly acquired American Morse, the operational notes include information about the Morse Telegraph Club whose members keep 'the mother tongue' alive. They exchange audio tapes, communicate direct via dial-up telegraph modems (using sounders for reception), give public demonstrations, and in some cases use the code on-the-air via amateur radio (see also MM28, p.35).

Everything is provided in a user-friendly menu environment containing many helpful features. The program can be run from the 3.5-inch disk provided, or will self install onto a hard disk, where file handling is much faster.

An added bonus for those who have been enjoying extracts from Bill Pierpont's book *The Art and Skill of Radio-Telegraphy*, currently appearing in *MM*, is the inclusion on the disk of the entire book (27 chapters and 9 appendices) courtesy of the author.

Please note: The MILL is written in compiled QBasic® and runs satisfactorily only from the true DOS prompt. Running from Windows®, or a shell program or from the DOS prompt presented by such programs can result in unsatisfactory operation.

Jim Farrior originally created his program for the benefit of members of the Morse Telegraph Club. It is now available to readers of *MM*, and Jim will greatly appreciate feedback from users.

THE MILL is obtainable from: James S. Farrior W4FOK, 1232 Harrison Point Trail, Fernandina Beach, FL 32034, USA, price $10.00 post paid to US addresses and $13.00 post paid to non-US addresses. Regretfully, payment can ONLY be accepted in US dollars. Payment from outside the USA should therefore be made in cash (US dollars) or by international cheque (obtainable from a bank) made out in US currency.

Some excellent suggestions come from those who have long known and used both codes. One of these is to use a sounder instead of audio tones to provide a completely different sound environment to help distinguish Morse from International. (If this is done, one needs to get familiar with receiving by sounder. See later.)

If one does not intend to use a sounder, there is no point in practising with it. Some experienced operators see no benefit from it. So there need be no confusion at all. We can simply go ahead and confidently learn the old, but new-to-us Morse code and enjoy it, using the principles already set forth here.

Perhaps some of the old timers, who learned both codes long ago, may be pleased to give us some additional advice from their experience also. (Expertly-sent Old Morse tapes are

American Morse Alphabet

A	·–
B	–···
C	·· ·
D	–··
E	·
F	··–·
G	––·
H	····
I	··
J	–·–·
K	–·–
L	—
M	––
N	–·
O	· ·
P	·····
Q	··–·
R	· ··
S	···
T	–
U	··–
V	···–
W	·––
X	·–··
Y	·· ··
Z	··· ·
&	· ···

Figures

1	·––·
2	··––··
3	···–·
4	····–
5	–––
6	·····
7	––··
8	–····
9	–··–
0	———

Punctuation (examples – there are many more)

Period (·)	··––··
Comma (,)	·–·–
Exclamation (!)	––··
Interrogation (?)	··–··
Paragraph	––––

available from: Cecil Langdoc, 201 Homan Ave., Elkhart, IN 46516, USA. They make for great listening.)

A Railroad telegrapher's story: a beginning operator was sending as fast as he could with a bug when the other operator cut in with what he copied as 'REND STOW IMA GIRT'. He asked for a repeat and got the same copy. He turned to his supervisor and asked: "What's wrong with that operator?" The reply: "Nothing, she's just saying 'Send slow I'm a girl.' You've gotta learn the difference between R and S and T and L. Didn't they teach you anything in that school?"

Example of an all-dot sentence: 'Her Irish eyes cry cos she is so sorry'.

Learning to Read by Sounder

Learning to read by sounder is no more difficult than by tone or buzz. It is just different. The sounder makes two different kinds of 'clicks' which correspond to movements of the key.

The down-stroke produces a sharp (high pitched) click to denote the beginning of the 'on' signal. The up-stroke is a duller sound, indicating the end of signal ('off').

The length of the intervening silence between them corresponds to the duration of the toned signal (in CW reception) to form a dit or dah.

Practise first with a string of dits and then of dahs, and then with some common words until you get familiar with this method of hearing the code signals. (Use letters which are common to both codes (see 1 above.) You will probably find it interesting and a challenge at first.

American Morse was designed for operation over wires, where static and other interference are absent or minimal. Although the International form of the code was developed and adopted in Europe only 5 years later, in America the earlier code was at first used for wireless.

Two factors probably acted to effect the change-over to International: the predominantly 'ditty' character of American Morse sounded more like static than the International form, and the world-wide nature of shipboard wireless operation urged a common code. This would have become more demanding as international commercial and amateur operation became commonplace.

American Morse – An Art

American Morse telegraphy is considered by many of its practitioners as a thing of beauty, a work of art. The 'tune sung out' by a local sounder 'outranks the most precisely tuned aircraft engine in terms of sheer beauty' according to one old timer.

Some Further Comparisons

If the identical duration of the basic unit of time (the dit and unit space) is used for both codes while sending the same message, the skilled American Morse operators will have completed the message while the International operators are still sending and receiving.

The message will in fact actually have been handled at a rate about 45% faster on the Morse line than on the International channel. Here the skilled old Morse operators will normally be using shorter dashes and spaces (as noted above) than their International peers.

This, combined with the 73% shorter average letter and 65% shorter number in old Morse accounts for the apparent discrepancy between the previously cited 10% faster. Therefore, when we read of the speeds achieved under American Morse operations we need to recognise that the sending operator is having an easier time than the corresponding International operator, but the receiving operator is under the same burden, and needs a more acute ability to discriminate small differences than his corresponding International operator.

In addition, when both have completed sending the message, the Morse operator will have used only about 91% as many keystrokes and about 85% of the total work or energy expended by the International operator.

These gains are achievable at a cost. First, the American Morse operator must learn to make some finer distinctions in sound than the International operator. He must readily recognise the internally spaced letters (C O R Y Z) and the lengthened dah characters (L and zero) as distinguished from what might be their equivalents, and he must generally live with closer spacing between characters and words.

There is also the problem of the difference between reading by sounder in the telegraph office and reading signals over the air where static and interference can cause loss of signal components.

Ambiguities introduced by the spaced letters and the shorter dahs in American Morse under radio operation stand in sharp contrast to the standardised durations in International, making the latter easier to interpret under adverse conditions.

I suspect that Old Morse operators under radio conditions tend to lengthen (or exaggerate) their time intervals (signal 'on' and spaces) to aid in copying. If they do so, then the time gain is less.

Some Practice Materials for Learning

Words which contain only letters common to both codes: (a e i u b d g h k m n s t v w) the and end man men view stew must mist missed kid king thing dig dumb sing sting stub hide side vast waste waist medium wide stab tug aim bug tame name magnet tube gust huge India ink sink had mad made human magnitude dean heat hum ham him sad dash dish shade gush bush hush mash smash biggest mug hug bag sag wag stage wages vague stag that tug heed head hasten skate hate date night might kite fight invite begin began behave behead aghast mane tame inane game wane hank bank stink wink

Words containing only the letters unique to American Morse: color copy zoo off for Roy clop joy fly crop cry lop clop plop roll jolly

Words containing only the letters unique to American Morse plus the rest of the vowels: collar fall clay year zeal leap peel play quail zero ooze flail flare jello queer clique fizzle clear lily cruel clear opera quiz aloe oil explore expire jury jail jeer clap clip pear peer reaper repair rill fill fall full rope rap ripe career clip clap place rice cliff all quip equip creep

(Reprinted and specially edited for MM *from Bill Pierpont's book* The Art and Skill of Radio-Telegraphy*).*

A New Look at Morse Communication

(A re-examination of two basic concepts)

by Hideo Arisaka

THIS MAY BE AN OUTDATED TOPIC today since the mandatory 500kHz maritime transmitter for emergency communications is in process of replacement by more advanced communication systems.

However, as a Morse code (CW) fan I have been very interested in trying to improve keys, and believe I have improved one particular aspect of the physical design of the vertical action (straight) hand key.

I have also been interested in establishing the optimum receiving audio frequency of the code which, in my opinion, should depend on the speed of the code sent.

Improving the Straight Hand Key

In a discussion with Mr H. Ogawa who spent his working life with CW as a professional operator, he told me: 'When I got tired after using the key for a long period, I used to put a pencil under the left side of the key base'. (**Fig. 1**). This statement impressed me greatly because it was based solely on his own experience, and immediately led me to conduct some experiments.

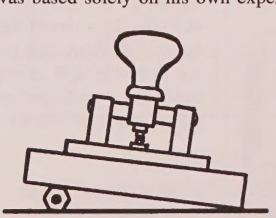


Fig. 1. Pencil under left-hand side of base

When I use the straight key my right shoulder and arm tend to rise up gradually. This led to the thought: 'Human arms are not made to swing vertically. We should not have to adjust our posture to suit the key but the key should be adjusted to suit the direction of the natural movement of the junctions of the shoulder, arm and wrist.'

I accordingly made an experimental key to collect data with the help of many experienced key users. (**Photo 1**). The adjustable baseboard allows the key to be inclined at your favourite angle. Simultaneously I studied the shape of the knob which evolved into the strange shape shown in the picture.

In practice, an inclination of 5° to 10° is generally well accepted for the first few minutes of operation. However, as time passes, and probably because we

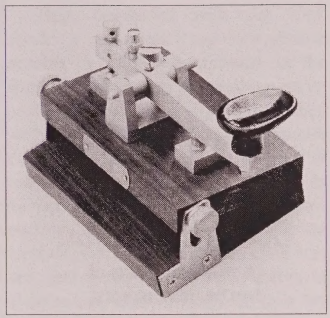


Photo 1. Experimental key with adjustable angle base

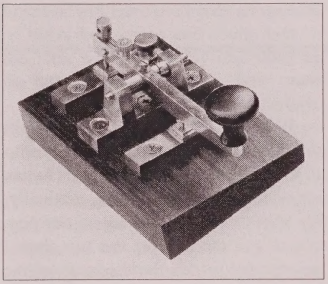


Photo 2. 'La Torre di Pisa'. Final 4° inclined-key

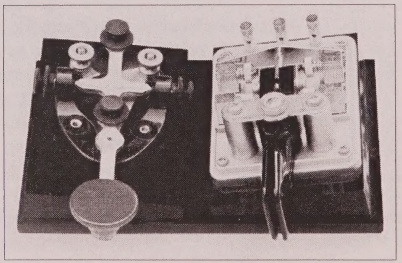


Photo 3. Combined keys, with paddle key raised 4° on the right hand side

feel our arms getting heavier, the optimum angle is found to be about 4°. On this basis the 'pencil under the key base' of Mr Ogawa is found to be reasonable. Based on the results obtained, I made a 4° inclined-key and named it 'La Torre di Pisa'. (**Photo 2**).

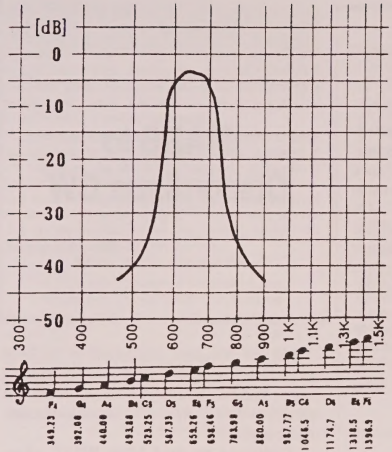
Incidentally, on the same basis, a horizontal action paddle key, can be improved by raising its right hand side. I discovered the optimum angle to be again about 4° and designed combined keys of both types. (**Photo 3**).

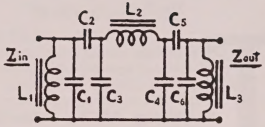
Optimum Receiving Frequency

Next, I studied the range of optimum audio frequencies (pitch) for receiving Morse signals.

Some decades ago, the so-called '400 000 theory' was popular in the audio field. This theory says that the frequency range of audio reproduction is best balanced when the product of the high and low end frequencies equates to 400 000 (e.g., 50Hz–8kHz or 25Hz–16kHz).

Although there are some objections to this theory, suppose we adopt it and narrow the bandwidth to $^1/_3$ octave, i.e., a range between 560Hz and 710Hz, with a centre frequency of 632Hz, which is the square root of 400 000. This would be an appropriate frequency range for receiving CW continuously for a prolonged period. **Figure 2** shows an





$f_0 = 632\,Hz$
$Z_{in} = Z_{out} = 600\Omega$
$L_1 = L_3 = 1.5\,mH$
$L_2 = 6.0\,mH$
$C_1 = C_6 = 4\,\mu F$
$C_2 = C_5 = 0.3\,\mu F$
$C_3 = C_4 = 1.8\,\mu F$

Fig. 2. Audio band-pass filter with passband between 560Hz and 710Hz, with a centre frequency of 632Hz

example of an audio band-pass filter which has this passband.

In my opinion, however, the optimum frequency is not constant, but depends on the speed of the Morse signal (see **Fig. 3**). We can estimate a reasonable formula for this but it can only be used to determine the modulating frequency of an A2 transmission.

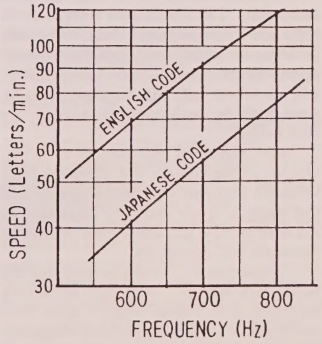


Fig. 3. Comparison of English and Japanese code relating to audio frequency v. speed

My suggestion is a formula with the square root of a Baud rate defined as the inverse of a dot length multiplied by a coefficient of 200. the coefficient can vary with individuals: the dependency of the coefficient is found to be surprisingly small.

$f = 200\sqrt{B}$

$B = k \times P/60$

where

f = frequency (Hz)

B = Baud rate

P = numbers of letters per minute

k = 8.0 for English code

13.2 for Japanese code

continued on page 48

MARS to Discontinue CW

The Military Affiliate Radio System (MARS) operates numerous communications networks on US military frequencies and thousands of radio amateurs participate in it.

Its main mission is to provide a backup to military communications and to support worldwide civil emergency and disaster communications. It also handles health, morale and welfare oriented traffic.

In July, the following message was transmitted from Air Force MARS at Scott Air Force Base in Illinois. This was only intended for MARS members but it also appeared on the Internet.

Subject: *MARS Broadcast No 21*
Dated: *19 July 1995 – Broadcast stations do not release prior to 1800Z 19 July 1995*
Item: *043:ASD/C31 Memo*

The following memo, dated 28 June 1995 was released by the Assistant Secretary of Defense for Command Control Communications and Intelligence.

Subject: *MARS Continuous Wave Morse Code Quote. Effective October 1, 1996, it is directed that the CW mode of communications will no longer be used on any Dept. of Defense MARS circuits, networks or frequencies. MARS has been steadfastly evolving to newer technologies to improve service. Technology such as single sideband replaced amplitude modulation to provide greater frequency efficiency. Likewise packet radio, AMTOR, PACTOR, GTOR and CLOVER modes of operation have replaced radio teletype. CW use and need in MARS communications has diminished over the years. It is recognized that CW can no longer compete with the rapid advancement in radio technology. Therefore, CW is to be retired from use within the DOD MARS.*

Signed: Emmett Paige, Jr. Unquote

As an Assistant Secretary of Defense specialising in communications, Mr Emmett Paige, W2IPG, a retired 3-star General, has overall authority over all US military communications.

Contacted by Fred Maia W5YI, editor of the W5YI Report, General Paige said, "That… memo was sent to the services and the defense agencies… Each service has their own MARS program. You will not find CW anywhere else today but in MARS"

He explained that Morse code had been automated, "You don't need a human now to copy and translate Morse code." The only possible use of CW today was for intercept operations since some third world countries still use Morse code but that these transmissions could be easily read automatically by code readers.

Maia explained that the W5YI Group was one of the original VEC (amateur radio volunteer examiner coordinator) groups and that many … if not most new applicants do not wish to learn the Morse code in order to access the HF frequencies.

"I understand … and I believe that the hobby will benefit… Although we have a no-Morse code license today, I think once we eliminate it [*i.e. Morse code]* altogether, it will be better for the hobby overall…" General Paige replied.

(Extracted and adapted for MM *from the W5YI Report, August 15, 1995)*

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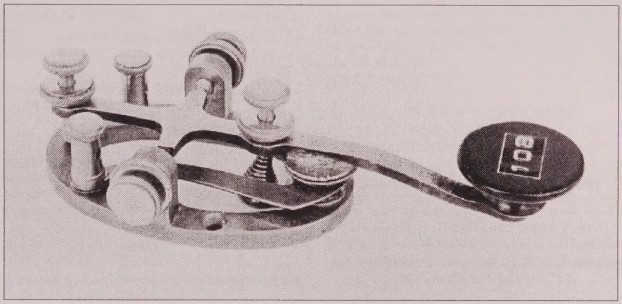
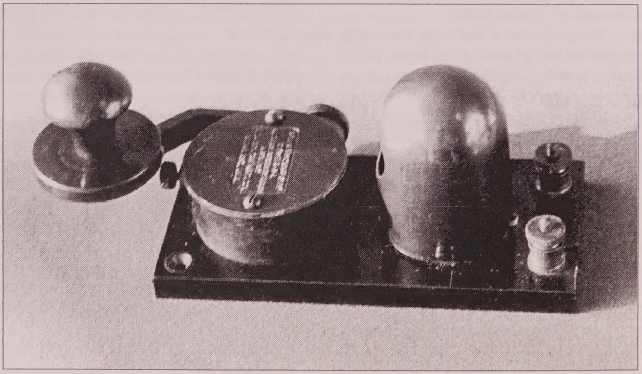
Showcase



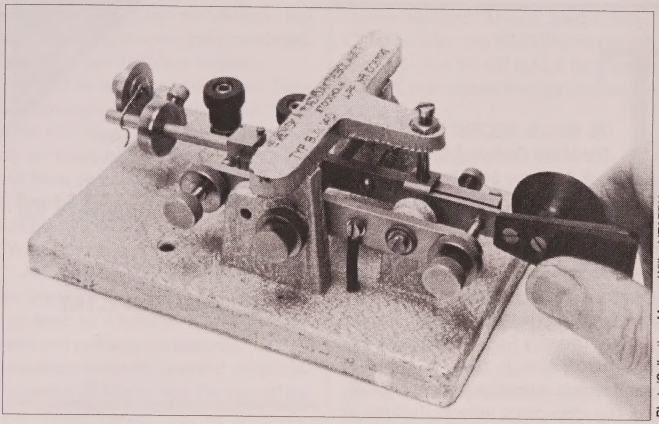
Collection: John Elwood WW7P. Photo: Ray Nelligan

Manhattan Electrical Specialty Co. (MES). Contacts replaced with coins (i.e., dimes, hence 'dime key'). A telegraph key modified for use as a spark key by hams in the early days of wireless



Photo/Collection: Lee Grant G3XNG

Flameproof J-7-A key, dated 1921, Order 141092. Made by L.S. Brach Mfg. Co., Newark, N.J. Said to be as used on USN Blimps



Photo/Collection: Murray Willer VE3FRX

Svenska Radioaktiebolaget, Stockholm - Swedish Radio Co. 'Typ Bug 140'

Photo/Collection: Wyn Davies

French Dyna Manitone key, used on Caravelles

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If anyone can add to the information given please contact
Tony Smith, 13 Morley Road. Sheringham, Norfolk NR26 8JE

Beginners' Corner

The MORSEMAN of Godzone

by Dr Gary Bold ZL1AN

THE IARU'S RECENT DOCUMENT *The Morse Code and Amateur Radio – A Summary from the work of the IARU CW Ad Hoc Committee* (summarised in MM38, see p.16) commented that some national societies have a regular column in their monthly journals devoted to Morse operating and that 'These are known to be very popular and are widely read.'

One of these is Gary Bold's superb 'The Morseman' column in *Break-In*, journal of New Zealand's national radio society NZART, and *MM* often prints extracts (features in their own right) from that column. On this occasion we are printing a selection of shorter items which have appeared in recent years, to give *MM* readers a taste of what it is like to read an entire 'Morseman' column.

If you are a radio amateur, why not help raise the profile of amateur Morse round the world by suggesting to your own national society that its monthly journal should have a regular Morse column like 'The Morseman' – as recommended by the IARU CW Ad Hoc Committee!

Morse Therapy

Many times, over the years, I've finished writing a lecture late at night. The house is asleep, but my mind is wide awake. I know that if I go to bed now, I'll just lie awake and the ideas I have to propound in the morning will rush madly about, echoing and muttering in my brain.

My solution has always been to fire up the TS-520, limber up the Brown Brothers paddle, put on the cans and exchange CW for a while with someone on 20 metres. After a while the Morse begins to decode itself automatically, and little ASCII strings march quietly and effortlessly through my head.

My pulse-rate slows, and the network theorems and Fourier transforms of my professional life go away. I have almost become one with the radio, a bionic post-processor tacked on the end of the audio chain.

CW is the purest form of communication I know, a 'mind-to-mind' linkage. The words appear right inside my head, words that were never spoken; uncorrupted by accents, verbal peculiarities, oddities of vocal intonation.

They leave no room for other thoughts. Almost like a form of meditation. Very therapeutic. After thirty

minutes of that, my metabolism has been slowed right down and I'm relaxed. I can go to bed and sleep comes.

All of us who have been hams for a long time go through phases. That's one of the nice things about our hobby, there are so many outlets for our nuttiness. I've been an antenna nut, a DX hunter, a transmatch experimenter, a keyer builder, a phasing SSB enthusiast, a CW keyboard freak.

All these phases have passed, but my first love is still CW. It's the mode I go back to whenever I need to wind down and recharge the batteries. There's something about the essential simplicity and purity of Morse that, for me, all the other modes lack.

Send Morse To Your Dog

A Northland farmer and engineer, Darcy Gilberd, who travelled away a lot and had other people moving his stock solved the problem of multiple dog control by training his dogs to obey Morse code signals blown on a referee's whistle.

'T' was to call attention, 'I' to bark or 'speak up', 'K' for 'steady', or when repeated, to sit. 'M' meant 'go away', and 'N' 'come in behind'.

(From New Zealand National Geographic*, October–December 1991).*

Send Your Call!

The other night I came across a nice juicy CQ on 20m and sat back waiting for the callsign. But 'CQ CQ CQ' went on and on, and after 15 seconds I lost patience and went away.

Its surprising how many stations do this. A venerable sage, years ago, counselled me: 'Always send a 3 by 3 CQ. The other guy KNOWS you're calling CQ – it's YOUR CALL he wants to hear'. Does anyone else get exasperated by this?

Operating in the USA
(Written during a visit to the USA – 1)

I'm now operating on HF. As I found in Australia, hams everywhere are incredibly generous! Jesse, W8MCP, lent me his spare rig, a SWAN 100MXA, circa 1978, together with matching power supply and transmatch. I have a very small backyard filled with large trees, the airspace criss-crossed with power, phone, cable TV wires. A proper antenna system or beam is out of the question, so I've just run an end-fed random wire out of the upper storey bedroom window.

This gets me all over the USA on 40 and 80 metres CW. But the SWAN is really designed for SSB, and has no CW filter. With the level of CW activity common in the USA, that means that it's unusual to find only one signal in the passband, and often there are 4 or more! I've been thinking about lashing up a passive audio filter, but haven't got around to it.

For any lover of CW, operating 40 metres in the USA is pure delight! It's 2145 local time, and I'm writing this column on the MITAC notebook computer alongside the SWAN, listening with one ear. I've just tuned over the 40 metre band, and in the bottom 25kHz there are 15 CW conversations going on, at speeds ranging from 6 to 45 wpm. There is no commercial interference, and no QRN! This is armchair operating. If

I just sit on one frequency, sooner or later a nice CQ comes along which I can answer. Everybody wants to come back to a callsign like ZL1AN/W8, although sometimes it takes a couple of tries to get it correctly. Working 'local DX' is a novelty!

The CFO Lives!
(From the USA – 2)

About a decade ago, I became a member of the CFO, which started out as a loosely-knit bunch of US keyboard enthusiasts. The entry requirements were, roughly, a deep love of CW, and a habit of participating in extended ragchews at 40 wpm plus. You had to be nominated by a couple of members who deemed you worthy.

The sunspots came and went, and I got busier. I lost contact with the CFO. Unofficial word came that they were extinct. Great was my surprise when Jesse told me that not only did they yet live, but he was a member! Immediately, he drew me to the Ten-Tec, spun up the CFO frequency of 7.033MHz, and behold! There we were in QSO with two others!

Next day, with the SWAN, I joined the local CFO SSB net on 80, and met Kirby, WS9D, the net controller. After welcoming me, he asked "Gary, can you operate SSB as well?" After a short pause, somebody said "He's talking to you on SSB!" "Ah" said Kirby, "So he is!"

Moral: Morse is so much second nature to some people that they have to think carefully about what mode they're transmitting on.

What does CFO stand for? 'Chicken Fat Operators'. CFO's cluck in Morse at the end of a QSO. They meet for 'Cluckins' at Hamfests and Conventions. They have mysterious, yet simple acoustical-mechanical devices for producing audible chicken clucks, invented by Kirby. They send lots and lots of beautiful CW to each other. Look for them around 7.033MHz during the hours of US darkness, and in the weekends.

Sinister Symbols from the Past
(From the USA – 3)

About a year ago, somebody (my files are 8500 miles away) asked me about two legendary symbols of US Ham Radio, the 'Wouff Hong' and the 'Rettysnitch'.

I queried David Sumner, K1ZZ, the ARRL Executive Vice President, about these objects. David kindly sent me some background material, from which I extracted the following. In 1917, stories by an anonymous writer with the pseudonym 'The Old Man', or 'T.O.M.' began to appear in *QST*. Called the 'Rotten Radio' series, they pitilessly assailed and exposed the poor operating practices of the day in satire and humour.

In one of these stories, 'Rotten QRM', T.O.M. castigated the gibberish he'd overheard in one particular QSO, citing as an example the words 'Wouff Hong', which, apparently, was a thing being used by somebody on somebody else.

Although T.O.M. admitted at the time that he didn't know what a Wouff Hong was, he subsequently adopted it as a disciplinary object with which to both flail bad operating practices and scourge the perpetrators. It is said that in the follow-

ing era he proposed its use as an instrument of torture and discipline, to maintain decency and order in Hamdom.

World War I came and went. In early 1919, T.O.M. contributed an article to *QST* called 'Rotten Starting', assailing the tardiness of the US Government in allowing Hams to operate again.

It finished with 'I am sending you a specimen of a real live Wouff Hong which came to light when we started to get our junk out of cold storage. Keep it in the editorial sanctum where you can lay your hands on it quickly in an emergency. We will soon be allowed to transmit, and then you will need it.'

Accompanying this was a weird, misshapen, wooden, wire-bound two-pronged tuning fork-like object. The Wouff Hong. There's one displayed in ARRL Headquarters to this day.

After his death, it was revealed that T.O.M. had been Hiram Percy Maxim, the first President of the ARRL. It is said that he took the secret of the origin of the first Wouff Hong to his grave. But I have also heard it rumoured darkly that some still alive know what it really was.

One day, I will make a pilgrimage to Connecticut and view it for myself.

A photograph of a prominent ZL Ham reverently handling a Wouff Hong actually appeared some time ago in *Break-In*. Again, my back copies are far away – I'll tell you which one when I get back to Godzone country.

An even more sinister disciplinary device was the Rettysnitch. David passed me no information on it save a photo, bearing the unnerving legend 'A formidable substitute when the Wouff Hong was engaged elsewhere'. The Rettysnitch appears like a poker having a zig-zag, sharpened tip. The handle is curiously worked, perhaps brass-bound, and a strange round protuberance adorns the shaft.

Even resting quietly on a bench, it radiates an air of ruthless savagery. Unhappy, indeed, the Ham condemned to be disciplined by such an object.

Audio or IF Filters?
(From the USA – 4)

I was asked recently 'why is it considered better to have a built-in, IF CW filter, rather than simply tacking an audio filter between the receiver and the 'phones? Surely they just achieve the same result?'

Well, they may not do QUITE the same thing IN PRACTICE. The SWAN rig I've borrowed from Jesse, W8MCP, has no built-in filter, so I've also borrowed an excellent MFJ audio filter from him. The problem arises when there's a very strong signal close by the weak one you're trying to copy. Even though the beat-note from the strong signal can't be heard in the filtered audio, it DID come through to the product detector, and may cause 'blocking' – a decrease in sensitivity whenever it's present.

It helps (as always when receiving CW) to turn the AGC OFF, and back off the RF gain control until the desired signal is just causing the S-meter to rise slightly. Even this may not get rid of rather disconcerting staccato level variations on it.

An IF filter, on the other hand, blocks out the strong adjacent signal BEFORE it gets to the detector, and usually gets

around this problem. I say 'usually', because many CW filters are not narrow enough for my taste when the bands are crowded.

I prefer filters which are 100Hz or less wide when the going gets tough. These are more difficult to implement at IF frequencies, since, for the same absolute bandwidth, the *Q* has to be higher. Back in ZL, I've found that a supplementary audio filter on the TS520S is useful – even though I do have the built-in 500Hz IF filter as well.

Another tip. When QRN is high – particularly when static occurs in loud bursts – narrowing the filter down doesn't help as much as you might think. This is because the burst static causes the filter to ring more, giving a continuous 'hollow' background tone in the passband.

Where Did They Come From?

The end-of-message signal, $\overline{AR}$ comes from the American Morse letters $\overline{FN}$, meaning 'finish'. $\overline{SK}$, from the American Morse $\overline{30}$, meaning half-past the hour, the end of an operator's shift. ES, for 'and' from the American Morse symbol for '&', used extensively in written English in earlier times. And when old-timers send a long dash for 'zero', they are actually sending the correct American Morse symbol. History casts a long shadow.

Another Learning Method

What if you don't have a computer or tape recorder? Wayne Green, Editor of *73* magazine, a while back, gave his method of learning Morse, which, somewhat simplified, goes like this. Listen to Morse, any Morse, at any speed, on any Ham band. Choose any character, and get the sound of it, as a WHOLE, fixed in your mind.

Each time you hear this character, write it down. Pretty soon, you'll pick it out every time it's sent. Then add another character. Write them BOTH down whenever you hear them. Continue until you can pick them both out. Keep adding characters. After a while you'll know Morse.

Well, that makes sense to me, although you have to have a receiver, and you'd have to wait for a long time to hear some of the less common characters. But many old-time telegraphers (like Ted McElroy) learnt just like this in days past. Any comments?

Sending Problems.

I visit and watch learners whenever I can, and they visit me. Usually we end up pounding some code for my '386 computer to read, and I'm often concerned to see incorrect technique which will be hard to correct.

I can't emphasise this enough: If at all possible, get an active CW operator to demonstrate how to hold and operate the key. I say active, because I regret that some well-meaning tutors who passed the test 20 years ago and have rarely used CW since are not good sending role models.

I find two common faults:

Fault one: The most common, 'finger sending'. If you've only seen 'Hollywood Morse' sent in the movies, you'll almost certainly start wrong, by pressing the key down with stiff fingers, and a tense, almost stationary arm.

If you recognise yourself here, flee, tonight, to the shack of some CW doctor for emergency treatment. If in the Auckland area, come to me. It may not be too late. You must send with the wrist. Don't even use a key to start off!

Rest your fingers on the edge of a table, elbow parallel to the floor. Relax the arm! Relax the fingers! Start to pump the wrist up and down. It should move down about 3 cm for each 'mark', with the fingers and elbow stationary. Once you get that action embedded in the brain, you're 90 percent there.

Now, when you lightly grasp the key knob, you'll be 'pumping' characters properly, and only now will the rhythm come right. Like correctly fingering piano keys, rhythmical, even sending technique must be burned into your brain.

If you've listened to plenty of good Morse, the right rhythm will come quickly. Often, during the day (but furtively, so that those around you don't think you're losing your marbles) play this exercise on whatever table you're sitting at: wrist-pump out a continuous sequence of 4 dits and 2 dahs, 'di di di di dah dah di di di di dah dah'. Tap your foot regularly on the accented elements, about 1 beat per second. The 4 dits and two dahs should take exactly the same time (the element lengths are 1:3, but there's a dit-space between each one, so the total durations are 2:4). This gets the relative lengths of the elements right.

Fault two: A weighting problem. Staccato, choppy elements that are too short in comparison to the spacing between them. Again, caused often by 'finger sending', sometimes by a key spring tension that is too large. The length of the dits and the space between them should be the same. Almost invariably, when you move the wrist freely, this problem corrects itself.

If you've got my Morse software, examine your sending with the program 'DK.BAS'. You'll see whether you have this problem. It's much easier to demonstrate than to explain. Maybe some experts out there have further sage advice?

Taking Down Code

Don, ZL2ASK writes 'I would like to warn others of a trap I fell into. By profession I am a draughtsman, and so tend to write in block capitals as I would on a drawing. This gives clear lettering which is easy to read.

'Naturally, when learning Morse I also copied in this way and after a year managed to pass 12 wpm. From there the sky should have been the limit. But I did not seem able to increase my copying speed, until I realised what the problem was. The fastest I could copy in block capitals was 13 wpm. Since most people seem to send at 15 to 18 wpm – at least the ones I listen to, there was no way I could copy at that speed. I am now re-learning to scribble Morse copy in normal writing.

'Please warn your readers of this problem! Up to 13 wpm block capitals are OK, but I recommend always copying in normal handwriting, right from the start.'

Don's point is an interesting one. I taught myself to take down code using only upper-case letters, forming them with the 'approved military' strokes

given in the old ARRL booklet *Learning the Radio-telegraph Code* and can still make hard copy that way up to about 18 wpm.

Service operators were trained this way to ensure uniformity of letter formation, and aid deciphering copy made by a variety of excited people under difficult conditions. Above this speed, I have to write longhand – but I had to learn that afterwards, and it was surprisingly difficult to make the transition.

Because I've never practised the skill, I can only hard-copy reliably up to about 25 wpm, though I can read and comprehend, without writing, much faster than this. But experienced old-timers like Bruce, ZL1ADF, and Bill, ZL2BO, have copied me verbatim at 35–40 wpm in longhand, although they say that the pencil nearly catches fire.

However, an equally important skill is to learn to read 'in the head', without writing everything down. Most experienced CW operators only note details for the log, and points they wish to remember or comment on later. Again, this ability has to be acquired.

Our test requires hard copy, and we get used to automatically making it, without bothering too much about the sense of what we have written. For head copy, we have to simultaneously read and comprehend, and many of us have forgotten how hard this initially seemed. What have other learners found?

(Extracted and adapted for* MM *from Gary Bold's 'The Morseman' column in* Break-In, *journal of NZART – various issues, 1988–1995)

The 1st Class PMG Certificate for seagoing operators (I see my own is about to celebrate its 45th birthday!) records that the holder has passed in 'Sending, and receiving by ear, in the Morse Code, messages in plain language at a speed of not less than 25 words per minute, and in code groups at a speed of not less than 20 groups a minute.'

Although it doesn't say so, the reception test is based on the accuracy of written copy, and the 5-letter code groups have to be transcribed in block capitals. The only real problem letter is the shortest in Morse terms – 'E', which also happens to be one of the most involved to draw. The option offered by our Morse lecturer to any student with particular difficulty, was to make the 'E' with a curved stroke, encompassing the top, side and bottom strokes in one movement (like a rather shallow letter 'C'), followed by a short horizontal dash in the centre. I personally found this no easier than a conventional block letter 'E', and that's what I always stuck to.

For handwriting, I can manage up to around 30 wpm, as confirmed by my greatly cherished RNARS Morse Receiving Proficiency Certificate. When I tried for the 35 wpm endorsement, however, although I could read the Morse OK, my hand seized up with cramp after three or four words. I've always promised myself I'd have a go using a typewriter, but the opportunity has never arisen. – GCA

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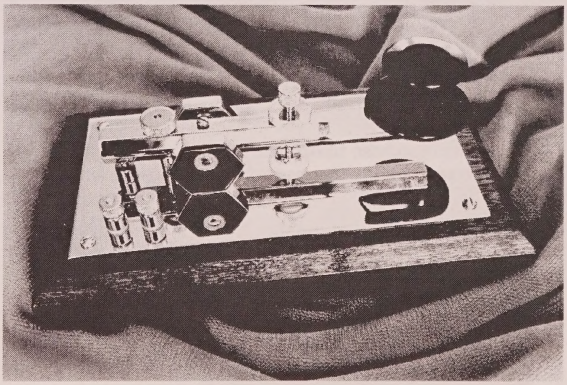

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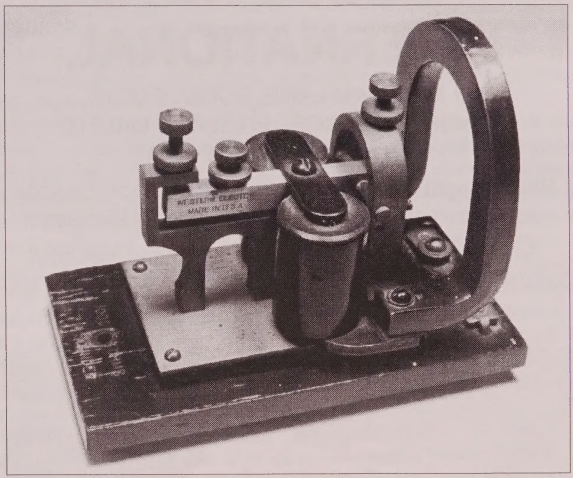
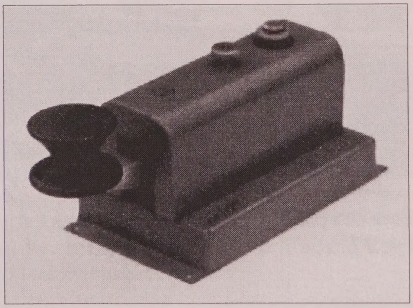


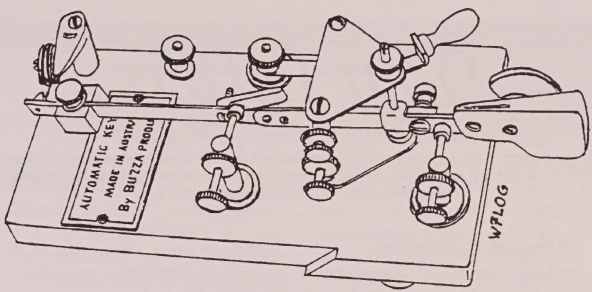
Photo/Collection: Dave Pennes, WA3LKN

Western Electric sounder, 1000 ohms. Very unusual design with a large horseshoe magnet incorporated. Information requested



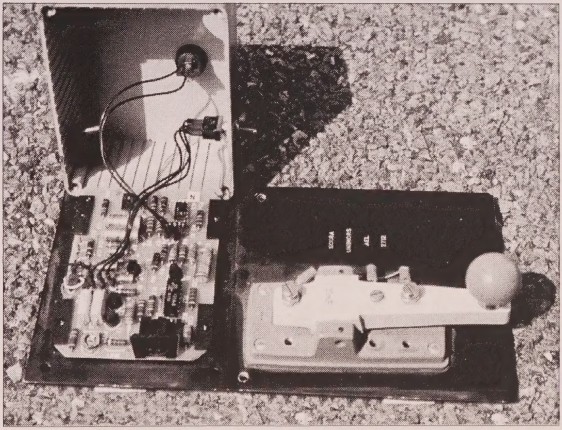
Photo/Collection: Wyn Davies

RAF 10F/127 key. Information on use requested



Sketch by W7LOG

Buzza Products key, made in Australia. The base looks like it was made to wedge into a specially shaped bracket. Information requested by Lynn Burlingame N7CFO



Photo/Collection: Dr M. Spiering PA3CVV

Unknown Unit with S-R Cotel key(?). Base marked SCOBA UNIMORS AEL 2712. Inside cover marked EDDYSTONE RADIO 9902M. Information requested on use of this unit; plus details of "what should be connected where to get it going, whatever it does"

Readers require further information on the keys, etc., featured here.
Please write to Tony Smith, 13 Morley Road, Sheringham, Norfolk NR26 8JE if you can help.
All useful information received will be published in MM *in a later issue*

Your Letters

Readers' letters on any Morse subject are always welcome, but may be edited when space is limited. When more than one subject is covered, letters may be divided into single subjects in order to bring comments on various matters together for easy reference

NZ No-code Controversy

After reading Gary Bold's comments on ORACLE in MM40, p.13, I think there is more than just a coincidence between MOC and ORACLE's (ZL2CA) thinking. Gary and NZART would do well to watch the activities of ZL2CA who has carried all before him so far.

I think it's frightening what he has achieved. Let's hope all the national societies stand firm and present a consolidated front to prevent him winning the Morse test battle.

I have nailed my flag firmly to the CW mast, but I live in the real world. Geoff Arnold sums it up beautifully in MM40, p.1, when he says "any changes should be evolutionary – not revolutionary."

On that basis, I hope to remain an old fuddy-duddy for many years to come!

George Ford, G0MHC
Hartlepool, Cleveland

In my opinion: 1. If the Morse test were to be abolished the future standard of Morse operating would decline due to the absence of test preparation courses for beginners. Personal styles of sending would develop, difficult to read by others, and the result could be CW used by small groups able to read only each others style of sending.

2. Without a test, personalised CW will become an 'encrypted mode/language' for future Morse-less generations. Coupled with QSD, QRM and QSB, it would be unreadable by governmental monitoring decoders and could be prohibited from the amateur bands. This would be less costly than training monitoring staff to read Morse by ear (who could teach them anyway?), especially if the target was a relatively small group of 'leisure time' Morse users. It may be thought, 'this could never happen', but one cannot be sure of such an assertion. In recent years many former assertions, and laws, have been subject to questionable change for one purpose only, financial saving.

3. With maritime CW on the way out, Morse will become even less known in society than it is now. If future new radio hams still have to take the test and learn something about CW-culture, at least some will still go on to take up and use Morse properly as happens at present.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

(The latest news about the NZ No-code controversy is on page 8 – Ed.)

Farnsworth Method

I have come across yet another early reference to what is now known as the

Farnsworth method of code timing, although it is dated later than the 1902 example from *Telegraphy Self-Taught* by Theo A. Edison, quoted by Tony Smith in 'Why Farnsworth?' (MM24, p.36).

The August 1972 issue of *QST* contains an article entitled 'Learning Morse', by Vincent O'Keefe WA1FKF. It is one of the best studies of code learning techniques I have ever seen. In this O'Keefe states:

'Experiments in psychology maintain that if a stimulus can be grasped as a single unit, learning will take place at a rapid rate. The first suggestion, sending each character quickly with rather lengthy pauses, initially appeared in two bulletins published in 1917 and 1918 by the Federal Board of Education in which a sending rate of 20 wpm was recommended.'

Pete Carron W3DKV
Bethlehem, PA, USA

*(*MM *is still trying to identify the original Farnsworth after whom this method of code learning is named. Inquiries about the packet message referring to Wes Farnsworth KE0NH mentioned in MM38 (p.41) have produced no response. Can any reader suggest further lines of inquiry on this subject? Have you ever seen articles describing this method which refer to Farnsworth himself? Did anyone actually know him? Please contact* MM *if you can help. – Ed.)*

A Message from Morse?

While at Samuel Morse's Locust Grove home last Memorial Day, my youngest son, Carson (whose middle name is Morse for some reason), made a major discovery.

Carson was 12 at the time, and as I was working on the receive side of the (Morse demonstration) desk, I noticed him spending a great deal of time studying the huge display of Morse's 'port rule'. This port rule was Morse's first transmitting machine and is a 6-feet long wooden monster, under glass.

The principle of the port rule is based on the typesetter's 'stick', which contains moveable type. Morse's first idea for transmitting signals was to set up moveable type, jagged pieces of metal, in a typesetter's stick, and have a metal contact wipe over the jagged surface and complete an electrical circuit.

After an hour studying the port rule, Carson came over and handed me a piece of paper. "Dad", he said, "I think I have found a message set up in the port rule."

When I went over and heard his explanation of the mechanics of the machine, I found that he was indeed right! He had figured out how to translate the moveable point type into dots and dashes, and seen that the jagged points were set up forming the message,
"ATTENTION ALL THE UNIVERSE!"

No one at the Morse estate had any inkling that the port rule was set up with any kind of message, and no one knows how many years the message had been stored there. Great kid he is, and getting rather good at copying Morse, too.

Abram Burnett
New Cumberland, PA, USA

(This letter originally appeared in Dots and Dashes, *journal of the Morse Telegraph Club, Jan-Feb-Mar 1995.)*

The message Carson found set up in

Carson Burnett (operator sine 'CA'), now 14, beside the replica portrule sending machine at Locust Grove. The 'type' set up with the message which Carson deciphered can be clearly seen. The label on the portrule reads WESTERN UNION MUSEUM/ REPLICA OF SAMUEL F.B. MORSE'S/ 'PORTRULE' SENDING INSTRUMENT OF 1835/ NEVER USED COMMERCIALLY.

American Morse is a corruption of a message said to have been sent by Samuel F.B. Morse to General Thomas S. Cummings at a demonstration on 24 January 1838, which read ATTENTION THE UNIVERSE! BY KINGDOMS RIGHT WHEEL!

Abram Burnett tells MM *that Carson has been tapping the key since before he could talk. "We practise in our basement telegraph office every night. Carson has a set of instruments beside his bed (key, relay, main line sounder, resonator with local sounder, and jack box) which are wired to other rooms in the house and to the basement. We use only American Morse and regularly communicate on this system.*

"He always opens the key beside his bed as soon as he opens his eyes in the morning, and sends GM CD (CD being his office call). On 19th July, he went through this ritual. I grabbed the key in the dining room and immediately replied HAPPY BDA SIG DAD, to which he responded OK TNX DAD. GM.

"So I was privileged to wish my son a happy 14th birthday right on a Morse circuit! Something most people can't do these days."

Western Electric Key

Regarding the Western Electric key on page 35 of MM39, what Mr Pears has is a quite typical example of a legless key made by Western Electric for American Telephone and Telegraph Company.

Western Electric was one of their major suppliers of all sorts of equipment, chiefly telephones. I understand

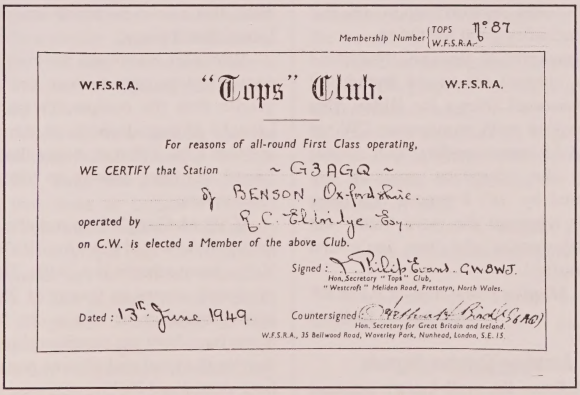
TOPS

Regarding the origin of the name 'TOPS', I remember asking Phil GW8WJ what TOPS actually meant, but I don't remember just what the answer was! I believe it was something like this: 'In the real telegraph office the Chief Operator was CHOPS, but the best operator was known as TOPS.'

I'm pretty sure that Arthur Bird G6AQ, who founded and ran the WFSRA, was a minister (The Rev Arthur H. Bird) and I think I joined the WFSRA around 1937, before I had a full radiating licence. Both these fellows were great and devoted thousands of hours fostering the friendship aspect of amateur radio.

I enclose a copy of a letter which shows the way Phil ran TOPS. I was just another member of the club but the tone and nature of the letter would lead one to think I was long-time personal friend.

Bob Eldridge VE7BS
Pemberton, BC, Canada



Membership Number { TOPS / W.F.S.R.A. } No 87

W.F.S.R.A. "Tops" Club. W.F.S.R.A.

For reasons of all-round First Class operating,

WE CERTIFY that Station ~ G3AGQ ~

operated by By BENSON, Oxfordshire. R.C. Eldridge, Esq.

on C.W. is elected a Member of the above Club.

Signed: S. Philip Evans. GW8WJ.
Hon. Secretary "Tops" Club,
"Westcroft" Meliden Road, Prestatyn, North Wales.

Dated: 13th June 1949. Countersigned: [illegible] (G6AQ)
Hon. Secretary for Great Britain and Ireland.
W.F.S.R.A., 35 Bellwood Road, Waverley Park, Nunhead, London, S.E. 15.

Bob Eldridge's 'TOPS' Club membership certificate, dated 1949

that the squared H stands for the Hawthorne manufacturing facility of Western Electric.

The shape of the stamped metal conductor between the anvil and the rear binding post indicates it was made to accommodate the wedge from a bug, which places the key in the earlier part of the 20th century.

Dave Pennes, MD, WA3LKN
Indianapolis, IN, USA

Media CW

In MM31 (p.43) I reported the demise of the CW signal 'QAM' which had identified weather bulletins on German TV for more than a quarter of a century.

It may interest *MM* readers to know that QAM is back on 'WDR' (3rd DL-TV-public channel) albeit in recordings of the news of 20 years ago. Every night there is a 20-year old news broadcast ('Tagesschau vor 20 Jähren') which includes the weather report of that time, including good old QAM.

Meanwhile, in Holland, 'Nederland 3' on channel 30 or 44 broadcasts *Jeugdjournaal* (News for Kids). This commences with synthesiser-CW, at around 15 wpm, sending 'radi'. Items during the 15-minute program are separated by 'ra'. I assume that these signals represent the word 'radio' cut off and wonder why they don't send 'TV' instead.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

Amateur Number Signals

Apart from the well-known amateur number signals (55, 73, 88), there are several other interesting number signals: 77 is a 'salute' used by the German D.I.G. (awards interest group); 51 is widely used in Latin America; 66 means 'God Bless You'; and 72 is used by QRP operators.

Does anyone know the origins of these signals?

Martin Zurn IK2RMZ/DL1GBZ
Ispra, Italy

(72 was proposed by the U-QRP Club (USSR) in 1991 to mean 'wishing you good QRP', and the G-QRP Club received unanimous support from major QRP clubs round the world for this new operating signal to be used in contacts between low power stations. Does anyone know of any other amateur number signals? – Ed.)

Unmarked Bug

The unmarked bug on page 35 of MM39 looks like a generic Vibroplex #6 ('Lightning' bug) without the nameplate, that's been repainted, and with a Lionel thumbpiece.

Vibroplex hardware, including the contact posts, was thinner and more gracile than the comparable parts on Lionel J-36 bugs. In addition, the knurling was a bit different, being flatter on Lionel and more convex on Vibroplex instruments.

If Mr McGinty's bug is nickel plated, the style would place it c.1930s, and if it's chrome then it is c.1940s. The use of slotted screws in favour of Phillips screws ended in the mid-to-late 1940s. Some bugs from the transitional periods have both nickel and chrome parts, and both slotted and Phillips screws.

Dave Pennes, MD, WA3LKN
Indianapolis, IN, USA

Indian Telegraph Service Key?

At least one version of the key referred to in your response to a query from Dr Joseph Jacobs (MM39, p.47) has indeed been used in the Indian Telegraph Service. While on a trip to India, my wife and I picked up a number of these keys from a surplus dealer who told us that they had been used in the Indian Telegraph Service. He had purchased them from an Indian government agency as a surplus lot.

I have one such key enclosed in an olive green painted box which has two webbing straps for use probably as a leg strap. The markings on the front of the box are not completely legible, but they are approximately:

W.REM CONT.UNIT L No2
ZA29007 P.C. No. (?) 2181

Inside the box, which measures 52mm W x 117mm D x 44mm H, are a capacitor and a 3.3kΩ resistor. The left side has a four-pin square male connector, with a similar female connector on the right hand side. In addition, there is a pair of 'screw on' binding posts on the left hand side.

It should not be surprising that the key was used in India since, at the time of its use, India was a British colony. Also, they have an extensive railroad system built by the British, with equally extensive telegraph lines for control of the trains as well as for other communications. In fact, in some places in India, Morse telegraphy continues to be used on the Indian railways.

This key was certainly not used only in the British radio 'spy' service.

John H. Klobuchar W1BZT
Lincoln, MA, USA

(Whatever its use in the Indian Telegraph Service, the reference on this key indicates its original use with a British Army Wireless Remote Control Unit. The ZA29007 was designed for use with the Wireless Set No. 62, a low-power mobile CW/RT transceiver covering 1.6–10MHz, introduced in 1945. The companion Local Control Unit was the ZA29006.

John's reference to Morse telegraphy continuing to be used on the Indian railways is intriguing. Are there any railway buffs among our readers who can provide further details? – Ed.)

New Exclamation Mark?

The missing exclamation mark (MM39, p.45 & MM40, p.39) is a pity indeed! But ····–· cannot be used since this signal is already used for 'understood' or 'understanding', at least in Continental Europe. Incorrectly transmitted, as S N, it is an abbreviation for 'soon'.

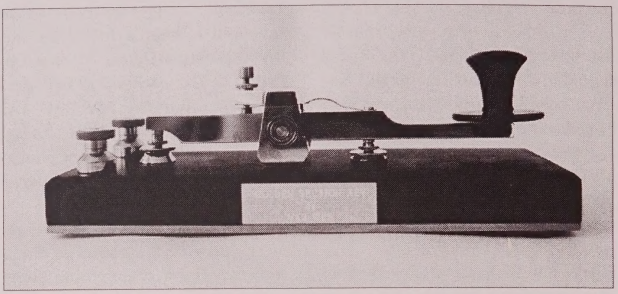
Based on an idea from Scandinavia, AGCW-DL proposes the use of a 'modified double comma': – – · · – – · · – – ! Of course the signal is a bit longer; however it clearly 'marks' our exclamation and so fulfils the demand for a new exclamation mark.

Otto A. Wiesner DJ5QK
Radio Communications Manager,
AGCW-DL

(Comments are invited on this suggestion from AGCW-DL. – Ed.)

RAF Operators

Further to the correspondence from Bob Eldridge (MM39, p.44) and others (MM37/8), my own experiences during



Wes Tyler's conventional contact Golden Section Key

Photo: VK2WES

Golden Section Conventional Contact Key

Since making Dr. Jim Lycett's Golden Section key (see MM40, p.45), I have constructed a conventional contact key following the same principles, to demonstrate its versatility. Using Jim's basic parameter that all adjustments are from a fixed platform, you will see my interpretation in the photo.

This key does not require the same base length as the original so, finding no Golden rule dimension that looked 'fair', I reduced the length and width by 13.5 percent (a Golden Rule figure). I think the result is quite pleasing. It keys very well and has a snappy action compared to the cantilever style. It is noisier, but a pleasure to use.

Wes Tyler VK2WES
New South Wales
Australia

six years in RAF Signals might be interesting – and even cause a wry smile among fellow old-timers!

In 1939, like many others, I volunteered for aircrew duties, being young, foolish, and absolutely mad on flying...

Called up in early 1940, I passed the aircrew medical with flying colours, until it came to the eyesight test, which required me to read the letters on a board at the other end of the room. Having craftily hidden my spectacles in my pocket, however, I innocently enquired 'What board?' I couldn't even see the end of the room!

As flying was out of the question, but I could touch-type, I became a Teleprinter Operator (Group 4). I was posted to Sutton Bridge in South Lincolnshire where a pair of ex-GPO operators taught me Morse up to 18 wpm. I then took a trade test and passed this to become a

Wireless Operator (Group II) – without even going on a W/OP's course.

There was plenty of time in the Signals Section of Station HQ to polish up my Morse, and when this reached 25 wpm I was rewarded with my tapes. Fortunately this was the maximum speed required in the RAF as I'm left-handed and cannot write any faster. At that time we had to write all messages, there were no typewriters, as in the Royal Navy. I wonder if they have to use a pencil these days?

I then spent a bitterly cold Christmas at Compton Bassett in Wiltshire on a Direction Finding Course. I wonder if anyone remembers those little D/F huts, each with its own receiver and goniometer? We have one of these, still in working order, in our wireless museum at Puckpool Park on the Isle of Wight.

I became a W/OP/DF, but wasn't satisfied. I volunteered for a course to convert to Wireless Operator/Mechanic at No.1 Wireless School, Cranwell, in Lincolnshire. This was said to be the coldest place in England, even colder than Compton Bassett, so I was shattered when on finishing the course I was told I was certainly NOT being posted out to the Far East (where it was hot!), but was staying on at the school.

"What," I queried angrily, "Do I have to go through that rotten course again?" Luckily not, for I stayed as an instructor, and being on the 'permanent staff' was billeted out with a charming widow who had two pretty daughters. How to be so lucky…

Not for long though. A new RAF school was opened in the Science Museum and I was posted to London, this time sharing a flat with other instructors in Albert Court. Such luxury indeed, in spite of the nightly air raids.

What has been missed in this list of RAF Signals personnel?

Wireless Electrical Mechanics (WEMs) were pre-war regular boy entrants, servicing the electrical as well as the wireless equipment on aircraft.

W/OP/AGs were, as the name states, wireless operator/air gunners on aircraft.

Radio Operators were telephony operators only – not CW operators.

Finally, Radio Mechanics (Group I) were actually RADAR mechanics, but this was kept very hush hush during the war years.

The memory grows dim after half a century and I may be quite wrong with these designations. If so, I will doubtless be corrected by other readers. As long as I'm not put on a charge I really do not mind in the least…

Douglas Byrne G3KPO/GB3WM
Isle of Wight

MM 'Chat' Frequency

The information in MM40 (page 6) about 3.553MHz and the *MM* signal seems to have been of interest to new readers who did not know previously about either. The evening of the day I received MM40 I heard 3.553 busy up until 2100 hours with non-Dutch *MM* readers referring to the magazine and the information given.

Perhaps stations out of range from European transmissions on 3.553 could look for each other *(using the* MM *signal! – Ed.)* on the higher bands on frequencies ending with '53; e.g., 14.053, 21.053, 28.053, 28.153MHz. This idea

was originally suggested by Rinus Hellemons, PA0BFN, in the early days of *MM*.

Monika Pouw-Arnold PA3FBF
Mijdrecht, Holland

Elbow Key

Lynn Burlingame's 'elbow key' sketched by W7LOG on page 33 of MM40 interested me. I have a key exactly the same as this, bought in 1946 from a chap who had been a Warrant Officer in REME during WWII. He said it was from a WWI Trench Set.

In MM9, p.5, there is a similar key, but with a different back contact assembly, on a British Army Power Buzzer (copied from the French 'Parleur'), dated 1917, as used in the forward trenches. Also, in MM37, p.20, there is a reconstructed key by Dennis Goacher which is obviously from the same source.

H.E. ('Smudge') Smith G3IVF
Kirk Langley, Derbyshire

Reading Visual Signalling

Regarding Bill Lord's letter (MM40, p.46), only two of my books on light venture a figure for persistence of vision, as relevant factors vary from eye to eye and according to circumstances – general light level and contrast of intensity of light with background.

As the editor noted, different parts of the retina have different sensitivities as well. The figures given for persistence are $^1/_{10}$ and $^1/_{12}$ of a second, so Bill Lord is pretty accurate.

Rev. Duncan Leak G0RJT
Tittensor, Staffs.

FISTS CW Club – The International Morse Preservation Society

FISTS exists to promote amateur CW activity. It welcomes members with all levels of Morse proficiency, and especially newcomers to the key.

The club has awards, nets (including a beginners' net), dial-a-sked for beginners, straight key activities, QSL bureau, newsletter, and discounts from traders.

Further information can be obtained from **Geo. Longden G3ZQS, 119 Cemetery Road, Darwen, Lancs BB3 2LZ**. Send an s.a.e. or two IRCs.

G-QRP Club

The G-QRP Club promotes and encourages low-power operating on the amateur bands with activity periods, awards and trophies. Facilities include a quarterly magazine, Morse training tapes, kits, traders' discounts and a QSL bureau. Novices and SWLs welcome.

Enquiries to **Rev. George Dobbs G3RJV, St Aidan's Vicarage, 498 Manchester Road, Rochdale, Lancs OL11 3HE**. Send a large s.a.e. or two IRCs

Morsum Magnificat

BACK ISSUES — Limited stocks of Issues Nos. **26, 27, 31, 32, 33, 34, 35, 36, 37, 38, 39 & 40 ONLY** now available, price £2.20 each to UK addresses; £2.40 to Europe or £2.75 elsewhere by airmail (less 20% for 3 or more)

Morsum Magnificat

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In fact, I suggest this subject should have been examined half a century ago!

The author would like to express his sincere thanks to those who operated the strange inclined keys for such a long period of time and contributed to the collection of data for this project.

(This article originally appeared in the January 1995 issue of the journal of the Antique Wireless Club of Japan, and is reprinted with permission. Our appreciation to the author for translating it into English for MM. *If readers experiment with either inclined keys or variable audio frequencies v. speed as described in this article,* MM *would like to know their results and conclusions for publication later. – Ed.)*

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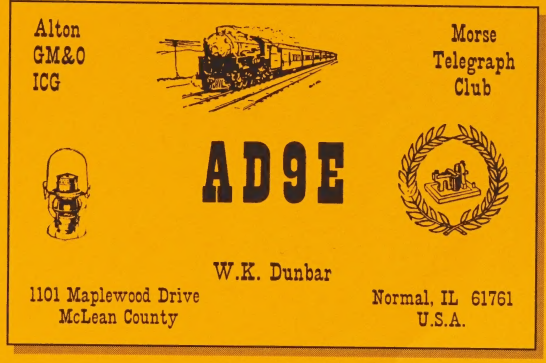
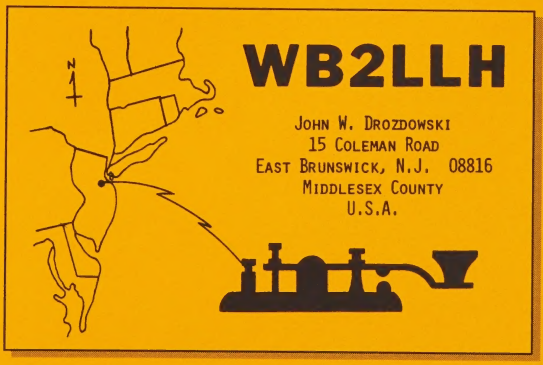
Morse QSLs

A series of reproductions of QSL cards with a Morse theme





	Resistance of Coils. Ohms.	Figure of Merit. Milliampères	Working Current. Milliampères	
			Minimum	Maximum
Wheatstone A B C (magneto):		Must work well on short circuit, and also through an external resistance of 7000ω.		
Communicator	800			
Indicator	250			
Bell	250			
Single Needle (Induced Coils)	200	3·06 Needle to deflect to stop pins	15	20
Bright's Bell:				
Relay	200	3·2	15	20
Sounders (20ω electro magnet with 500ω shunt coil; see p. 160)	19·2	73	—	—
Relays:				
Standard A	400	·5	14	17
,, B	200	·5	14	17
,, C	1200	·087	14	17
Non-polarised B	400	6	—	—
Siemens	400	1·13	15	20
Sounder (20ω shunted with 500ω. Used for local circuits only)	19·2	92	60	80
Direct Inker (including galvanometer, 30ω) [Speed of slip between 6 and 7 feet per minute.]	330	4·9	15	20
Local Inker (40ω with 500ω shunt)	37	69	—	—
Automatic Receivers	200	10 (key)	—	—
[Speed of slip to range from 8 to 60 feet per minute.]		17·5 (400 words per minute)	20	25
Multiplex:				
Distributor	50	233	—	—
[Working current is fixed by experience; see p. 213.]				
Telephones:				
Gower Bell—				
Induction Primary Coil	·5	—	—	—
Induction Secondary Coil	250	—	—	—
Receiver Coils	200	—	—	—
Post Office:				
Induction Primary Coil	·5	—	—	—
Induction Secondary Coil	150	—	—	—
Receiver (joined in multiple) ea.	120	—	—	—
Relay	100	6	16	—
Bell, Trembler	100	13·5	20	—

Table of Working Currents of Post Office Instruments. 'Figure of Merit' is the minimum current with which the instrument is expected to work when tested before issue from Stores. The working currents give figures to be used when calculating for battery power.

From Telegraphy *by W.H. Preece and J. Sivewright, published by Longmans, Green & Co, 1895*